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AP20 RECHESTATO 31 MAR 2006

THE FOLLOWING IS THE ENGLISH TRANSLATION OF THE ANNEXES TO THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT UNDER ARTICLE 34: Amended Sheets (pages 33-37/2)

4. The device according to claim 1, wherein the device is attached to the pole member by close-contact engagement of the pair of end plates with the pair of concave portions.

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5. The device according to claim 1, wherein the pole member comprises a plurality of grooves for supporting target substrates to be processed in the semiconductor processing apparatus, and the pair of concave portions are two of the grooves.

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6. The device according to claim 5, further comprising, in addition to the pair of end plates, a plurality of engaging plates to be inserted into the grooves, wherein the device is attached to the pole member by close-contact engagement of the pair of end plates and the engaging plates with the grooves.

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7. The device according to claim 1, wherein the solution receiver is defined by a space in a container formed by the pair of end plates and the frame.

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8. The device according to claim 7, wherein the pair of end plates and the frame consist essentially of fluoroplastic.

(Amended) An examination assistant device used

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for examination in which a process solution comprising an etching solution is held in contact with an examination objective portion of a quartz reaction tube of a semiconductor processing apparatus, and then the process solution is analyzed to identify a metal

impurity contained in the examination objective portion, wherein the quartz reaction tube includes a curved surface on which the examination objective portion is positioned, the device comprising:

an annular member having a bottom surface to come into close contact the curved surface, and configured to cooperate with the curved surface to form a solution receiver that surrounds the examination objective portion for storing the process solution, the annular member comprising an elastic seal member disposed on the bottom surface.

- 10. The device according to claim 9, wherein the annular member consists essentially of fluoroplastic.
 - 11. (Deleted)

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- 12. The device according to claim 9, wherein the annular member further comprising a magnet embedded therein.
 - 13. (Amended) An examination method using an examination assistant device, for identifying a metal impurity contained in an examination objective portion of a quartz product of a semiconductor processing apparatus,

wherein the quartz product is a pole member comprising a plurality of grooves for supporting target substrates to be processed in the semiconductor processing apparatus, and the pole member includes a pair of concave portions disposed one on either side of

the examination objective portion, and

wherein the examination assistant device comprises a pair of end plates configured to engage with the pair of concave portions, a frame connecting the pair of end plates, and a solution receiver disposed between the pair of end plates, and having dimensions to store the process solution and hold the process solution in contact with the examination objective portion,

the method comprising:

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placing the examination assistant device on the pole member such that the pair of end plates engage with the pair of concave portions and the examination objective portion is positioned within the solution receiver;

causing a process solution comprising an etching solution within the solution receiver to be in contact

with the examination objective portion for a predetermined time, thereby performing etching on the examination objective portion; and

operating an analyzer to analyze the process solution used for the etching, thereby identifying the metal impurity contained in the examination objective portion.

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14. The method according to claim 13, wherein said identifying the metal impurity contained in the examination objective portion comprises:

evaporating and drying the process solution used for the etching to precipitate quartz and the metal impurity, thereby forming a precipitated product;

dissolving the precipitated product into a secondary process solution comprising an etching solution and set to be in an amount smaller than that of the process solution; and

operating the analyzer to analyze the secondary process solution containing the precipitated product dissolved therein.

15. The method according to claim 13, wherein said identifying the metal impurity contained in the examination objective portion comprises:

condensing the process solution used for the etching to form a condensed solution; and

operating the analyzer to analyze the condensed solution.

- 16. The method according to claim 13, wherein said identifying the metal impurity contained in the examination objective portion is performed by an inductively coupled plasma mass analyzer.
- The method according to claim 13, wherein the predetermined time for performing the etching on the examination objective portion is determined to correspond to a target etching depth, with reference to a relationship prepared in advance between process time and quartz etching amount in etching quartz by the etching solution.
 - 18. The method according to claim 13, wherein said identifying the metal impurity contained in the examination objective portion comprises:
- analyzing the process solution used for the etching to detect an amount of quartz and an amount of the metal impurity; and

using the amount of quartz and the amount of the metal impurity to estimate a concentration of the metal impurity in the examination objective portion.

19. (Deleted)

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21. (Added) An examination method using an examination assistant device, for identifying a metal impurity contained in an examination objective portion of a quartz product of a semiconductor processing apparatus,

wherein the quartz product is a quartz reaction tube of a semiconductor processing apparatus, and the quartz reaction tube includes a curved surface on which the examination objective portion is positioned, and

wherein the examination assistant device comprises an annular member having a bottom surface to come into close contact the curved surface, and configured to cooperate with the curved surface to form a solution receiver that surrounds the examination objective portion for storing the process solution, the annular member comprising an elastic seal member disposed on the bottom surface,

the method comprising:

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placing the examination assistant device on the curved surface such that the examination objective portion is positioned within the solution receiver;

causing a process solution comprising an etching solution within the solution receiver to be in contact with the examination objective portion for a predetermined time, thereby performing etching on the examination objective portion; and

operating an analyzer to analyze the process

solution used for the etching, thereby identifying the metal impurity contained in the examination objective portion.

22. (Added) The method according to claim 21, wherein said identifying the metal impurity contained in the examination objective portion comprises:

evaporating and drying the process solution used for the etching to precipitate quartz and the metal impurity, thereby forming a precipitated product;

dissolving the precipitated product into a secondary process solution comprising an etching solution and set to be in an amount smaller than that of the process solution; and

operating the analyzer to analyze the secondary process solution containing the precipitated product dissolved therein.

23. (Added) The method according to claim 21, wherein said identifying the metal impurity contained in the examination objective portion comprises:

condensing the process solution used for the etching to form a condensed solution; and

operating the analyzer to analyze the condensed solution.

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